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PSOROSPERMOSIS FOLLICULARIS CUTIS.

A Clinical Lecture,

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GENTLEMEN: The patient whom I present to you exhibits very clearly the characters of a somewhat rare disease which has recently attracted considerable attention, and the nature of which has given rise to no little study and discussion. I trust, however, that before I have finished you will recognize that the disease has more than a scientific interest; that our remarks of to-day will stimulate you to a further study of the general subject involved; and that some practical good may result therefrom.

The clinical history of the patient before us is as follows:

Mr. M. L., a German, aged forty-nine years, enjoyed good health up the time of his entering the U. S. army, in 1862, in which he served for three years. About a year after entering the service, without any apparent cause, except an immersion in a river, after which he was sick for some time, small, dark lesions appeared upon the forehead and over the sternum, similar to those now present; and from that time, twenty-six years ago, he has never been free from the eruption, which has gradually increased in extent. These lesions began as small, reddish-brown points, or papules, which gradually enlarged

and gave a rough feeling on passing the finger over them; where they were most numerous they coalesced to a greater or less extent, forming patches of a dirty yellowish-brown color.

The increase of the eruption has been gradual, but at times more rapid, especially in the spring and fall, when he has fever, with pains in the bones (which may be malarial) confining him to bed; at these times the affected portions become swollen and red, and, he states, have been mistaken for erysipelas. This latter statement is, of course, of no importance, for we all know how commonly unusual eruptions of a congestive character are called "erysipelas" by those unacquainted with skin diseases. He cannot tell the date at which the various portions of the body became affected, but remembers that the forearms and backs of the hands were attacked about fourteen years ago.

He has two daughters, aged respectively fourteen and seventeen years, also a son twenty-four years of age, all of whom are healthy and free from any eruption. He has lost one child aged six weeks. His father and mother never had any eruption, and he has a brother aged fifty-four years, and a sister aged fifty-seven years, living and healthy. Another brother died at the age of forty-three years of paralysis.

His present condition, as you see, is not very good. He has an anxious, careworn expression, and says that he is so nervous and weak that he cannot attend to any business. The skin lesions extend from the top of the head to the groins and upper thighs. The top of the head, which is bald, you will notice is almost covered with small, brown specks, filling the sebaceous orifices and giving a "nutmeg-grater" sensation on passing the finger over them. On the forehead the lesions are larger, varying from the size of the head of a small pin to that of a medium-sized flat bead; all are slightly raised above the surface, are either flat or rounded, and dis-

tinctly hard, though greasy ; they are much the same on the cheeks, though here, as on other exposed parts, they are kept worn down by washing and friction. On the chest you see the disease most perfectly developed, and here, and on the abdomen, which is largely covered, the separate, hard, brown papules are more elevated, rougher, and of a darker color. On the back they are less thickly distributed, and on the forearms they are more closely set, forming patches. The groins and upper part of the thighs also exhibit thickly-developed masses of them, but nowhere do we find them, so large or prominent as have been described in one or two similar cases ; nor do we find a very distinct, foetid odor which has been spoken of in other cases, although it is faintly marked here, and the patient says that at times it is much more perceptible.

The hands are rather peculiarly affected by the disease ; on the backs there are single isolated papules, similar to those seen elsewhere, and also brownish, dirty patches, evidently made up of the papules, closely packed together. Notice also the nails, which are affected in a very remarkable manner. They are all greatly thickened, so as to be raised from their bed, and the thickening is in the centre, while the sides of some are atrophied, giving almost a claw-like appearance to them. All of them are, as you see, very fragile, both at the ends and sides, with furrows and fissures running longitudinally.

Observe, now, more closely the character of these papules, especially on the chest and arms, which appear at first sight to be firmly attached, and to form an integral part of the skin. They are quite easily raised with the point of a knife, without pain, and leave behind them a small depression, reddened, and somewhat resembling the surface left after picking out very small cups of favus ; in some of them which I have thus dug out there is a little bleeding at the base. These small

masses, then, seem to be rather loosely attached, and are evidently horny and fatty concretions seated in the orifices of the sebaceous glands opening into small hair-follicles. Some of these masses have already been examined under the microscope by my friend, Dr. Politzer, who reports the presence in them of the *psorosperms* which, according to the French observers to be referred to later, form the diagnostic feature, as they are the cause, of the disease. The wound on the head and one on the arm mark the sites where portions of the skin have been excised by us for further microscopical study, and you also see scars where portions have been removed by others on former occasions. I may here remark that this patient has been the subject of much observation and study by a number of physicians since I first treated him nearly ten years ago, and I may add that various opinions have been held as to the nature of his complaint. I am told that Dr. Lustgarten, of New York, first gave this patient's disease its present (and probably correct) name, and exhibited microscopical sections of the same at the recent Congress in Berlin.¹

What, now, is this curious affection which has lasted for many years, and resisted varied and thorough treatment, even in hospitals? Although these cases are relatively rare, there are a number of them on record, and, as before remarked, the disease is worthy of study for many reasons.

At first sight this condition suggests an ichthyosis in which the lesions are separated and isolated, and we accordingly find that a similar condition was mentioned by Wilson² long ago, with the title *ichthyosis sebacea cornea*. Because of the evident implication of the sebaceous glands Guibout³ afterward criticised Wilson,

¹ Annales de Derm. et de Syph., 1890, p. 707.

² Diseases of the Skin, London, 6th ed., 1887, p. 348.

³ Nouvelles Leçons Clin. sur les Mal. de la Peau, 1879, p. 962.

and, considering the condition as wholly inherent to the sebaceous glands, he gave it the name *acne sebacée cornée*. Next Lesser¹ considers the subject, and applies the name *ichthyosis follicularis* to the affection described by Guibout, and describes a case in a child, which he thinks is the same disease. Morrow² reports a case which is pretty certainly one of the affection under consideration, with the title *keratosis follicularis*, because he considered the nature of the affection to be a cornification of the products of the sebaceous glands and adjacent fine hair-follicles; still later White³ reported a case of the same disease with the name *keratosis (ichthyosis) follicularis*, while Leloir and Vidal⁴ very recently described it under the name *acné cornée*.

I have thus given you all that I know that bears on the subject previously to the studies of Darier⁵ and Thibault,⁶ which have turned our thoughts in quite another direction. These observers based their studies on two cases which appeared in the services of MM. Fournier and Besnier in the celebrated Hôpital St. Louis, of Paris. It is a little curious that just before they published their researches on the subject, one of these very cases was presented by M. Hallopeau,⁷ one of the physicians of the Hôpital St. Louis, before the Society of the Hospital, under the name "*acné sebacée concrète* with hypertrophy."

In examining the plugs or masses forming the papules,

¹ Ziemssen's Cyclop., Bd. xiv. S. 478.

² Journal of Cutaneous and Genito-urinary Diseases, 1886, p. 257.

³ Ibid., 1889, p. 201.

⁴ Traité Descriptif des Mal. de la Peau, Paris, 1889. p. 7.

⁵ De la Psorospermose folliculaire végétante. Annales de la Dermatol. et de Syph., 1889, p. 597.

⁶ Observ. clin. pour servir à l'histoire de la Psorospermose foll. végétante de Darier. Thèse de Paris, 8 Mai, 1889.

⁷ Annales de Dermatol. et de Syph., 1889, p. 20.

Darier, who is the head of the laboratory at the Hôpital St. Louis, found that the cellular elements composing them did not all behave under staining reagents exactly like altered epithelial cells, and under the microscope he found that there were other bodies which were foreign to the tissues under consideration I cannot, of course, give you all the details of his elaborate microscopical study, but will only tell you that he found certain round or oval bodies situated within the epithelial cells of the lower layers, which he believed to be of parasitic nature. I will give you very briefly Darier's own condensed statement of the appearance of these bodies as he described them at the International Congress for Dermatology and Syphilography in Paris, last year:¹ "The malady is due to special parasites, which appear in the form of round, nucleated bodies, surrounded by a dense membrane, and situated in the interior of the epithelial cells whose nuclei they compress. They are found in great abundance at the bottom of the sac formed by the dilatation of the follicle: the horny plugs themselves are to a great extent composed of the parasites, but they are transformed in this situation into hard and refracting particles."

The number of cases thus far studied is too few to permit of very positive conclusions either in regard to the mode by which the disease is acquired, or as to the exact relation of these bodies to the production of the disease. I may say, however, that these same psorosperm-like bodies have been found by Dr. Bowen both in the sections originally taken from the first case observed by Dr. White, already referred to, and also in a second case which he has recently reported² under the title *keratosis folliculosis* (*psorospermose folliculaire*

¹ Comptes rendus, Cong. Internat. de Derm. et de Syph., Paris, 1890, p. 391.

² Journal of Cutaneous and Genito-urinary Diseases, January, 1890, p. 13.

végétante), and, as already mentioned, in the plugs from the case now before you.

The exact nature of these bodies has not yet been fully determined. Darier believes them to be true parasites belonging to the order of sporozoaires, which are unicellular organisms belonging to the animal kingdom, and a subdivision of the protozoaires. This class includes (1) the gregarinæ, (2) the oval psorospermæ or coccidiæ (which is the one found in this disease), (3) the sarcosporidiæ, (4) the psorosperms of fishes or myxosporidiæ, and (5) the psorosperms of the articulates, or microsporidiæ. All these organisms live as parasites on other animals, and in certain cases give rise to fatal maladies. The coccidiæ, which alone interest us here, live almost exclusively in the epithelial tissues of vertebrates, where they are found even in the interior of the cells. They are distinguished from the other groups of sporozoaires, and especially from the gregarinæ, by several characteristics, such as the absence of movement at any period of their development, their intracellular location, their solitary encystment, and the relatively small number of spores formed in the cysts. The ovoid coccidia produce cysts in the biliary ducts of the rabbit, and in the human liver and ureters¹ psorosperm cysts have been observed.

Before going further into the subject, and making what I hope will be practical suggestions, allow me very briefly to give the chief facts of the nine cases of this peculiar disease to which I have thus far found reference (including Dr. Morrow's and my own, and also three briefly alluded by Dr. Boeck, of Norway).²

1. (Fournier, Darier, Thibault.) Male, aged forty-two years, a bookbinder, affected for seven or eight years; the disease beginning at first insidiously, increased more

¹ Journ. of Cutan. and Genito-urinary Diseases, 1889, p. 318.

² Boeck: Monatshefte für prakt. Derm., Bd. xi. No. 3, p. 132.

rapidly during the last two years. The eruption was general.

2. (Besnier, Darier, Thibault) Female, aged thirty years, affected for three years only, and presenting clinically the same aspect as the preceding.

3. (White.) Male, American, aged forty-nine years. Eruption first appeared beneath the knapsack, after a long march, when in the army in 1862, twenty-seven years before the date of observation.

4. (White.) Female, aged twenty-one years, in whom the eruption slowly developed after she was five or six years old.

5. (Morrow.) Male, aged twenty-one years, a sailor. Eruption appeared about five years previously to observation, soon after beginning a seafaring life.

6. (Bulkley.) Male, German, aged forty-nine years. Disease appeared when in the army, twenty-seven years ago.

7. (Boeck.) Male, aged forty-seven years, who had had the disease sixteen years; numerous encysted coccidia in epidermis.

8. (Boeck.) Male, son of former case.

9. (Boeck.) Male, also a son of case No. 7. From these cases in the same family Boeck argues for the contagiousness of the disease.

You will notice the singular fact that Dr. White's first patient and mine were at exactly the same age when first seen, and that both of them acquired the disease in the army. But Dr. White's patient was an American, and this man is plainly a German, and the ages are really different, as the former case was observed considerably over a year ago. Moreover, on careful inquiry our patient denies that he is the one referred to by Dr. White, although, strange to say, he did see Dr. White, for the first time, only a few weeks ago. Finally, the description of Dr. White's case does not correspond to this.

I might add that Besnier, at the Clinical Society of the Hôpital St. Louis, when Hallopeau presented the case previously referred to, mentioned having seen still another case; and several writers cite the case reported in a thesis of Lutz,³ as general hypertrophy of the sebaceous system, as one of the affection under consideration.

In regard to the true nature of this complaint, whether these bodies called by Darier *psorosperms* are in reality parasites, and whether they are the true cause of the disease, we unfortunately have as yet no means to determine absolutely. All efforts to cultivate these bodies have failed, nor has anyone succeeded in inoculating animals with the disease, although several attempts have been made. The malady does not seem to be communicated by ordinary means, for three of the nine patients were married men, living with their wives, to whom the disease was not communicated. This, however, proves little, for tuberculosis may likewise exist under similar circumstances without infecting others, and it is only very recently that the contagiousness of the latter has been proved; also, tinea versicolor, known to be due to a vegetable parasite, is rarely communicated from husband to wife. But, as already mentioned, Boeck reported a father and two sons affected by the disease, which he considers proof both of contagiousness and of the coccidia as its cause. Unfortunately the cases were only detailed at a society meeting in Norway, and I have been unable to find a full account or description of them. Several able French and other microscopists and naturalists have agreed as to the parasitic character of the bodies referred to, and the evidence seems very strong that they are the producers of the disease in question.

But the most interesting and perhaps important part of the question lies in the fact that more or less similar bodies have been found in the tissues of several other

¹ Hypertrophie Gén. du Syst. Sebacée. Thèse de Paris, 1850.

maladies, which are quite distinct from the present one, and from each other, in their clinical features. So marked are these microscopical characters that Darier has proposed the name *psorosperms cutanées* to designate the group in which they should be placed. The first of these diseases is the so-called molluscum contagiosum with which all are familiar. This disease Neisser,¹ Darier, and others cited by them, believe to be due to the presence in the epithelial cells of similar parasites—the so-called “molluscous bodies” which have long been known; these resemble in a certain degree the psorosperms already described, and are thought to be identical or at least analogous to them.

These curious round bodies have also been found by Darier, Wickham² and others, in that peculiar form of epithelioma of the nipple known as Paget's disease; and Darier further states that Malassez, in 1876, “noticed in a large number of epithelial tumors, cellular bodies, granular or refracting, sometimes encapsuled, which presented certain analogies to the psorosperms of the rabbit,” and that Cornil has reported having seen analogous organisms in certain cancers of the uterus.

Here, then, lies the real interest in the study of the disease before us, as well as the important and practical element previously alluded to; namely, the possible results which may come from a thorough investigation and knowledge of the effects in the tissues of an order of parasites, the psorosperms, which have been hitherto unrecognized—if, indeed, the assumption is correct that the three maladies in question are really caused thereby. And you will readily see, that if the observations in regard to epithelioma are correct a great step has been taken in the direction of discovering the cause of cancer. It

¹ Viertelj. für Derm. und Syph., 1888, p. 558.

² Comptes rendus, Congrès Internat. de Derm. et de Syph., Paris, 1890, p. 385.

has been recognized for some time that cancer is occasionally communicated from one person to another, which, to a certain degree, sustains the parasitic origin of the disease. The recognition of the causation of pus by the various forms of micrococci has been prolific of good in surgery; the discovery of the bacillus in tuberculosis is working beneficially in the direction of the prevention of the spread of that disease, and may yield results in regard to treatment; and if it should be fully and positively determined that cancer is due to the presence of *psorosperms*, may we not hope for more rapid progress in its prevention and treatment than has hitherto been attained?

Thus, you see, gentlemen, that cutaneous pathology, always an interesting study, leads the way to investigations which may be of the greatest importance.

In regard to therapeutics, in the patient before us the discovery of the psorosperm in his tissues should give us a clue to a method of treatment which, theoretically at least, promises more benefit than he has received in the past; for, as you have heard, his disease has lasted about twenty-seven years, and he has never been much benefited by treatment. It remains to be seen how much can be accomplished when treatment is directed against the parasitic element which we have assumed as the cause. Unfortunately, but slight results were obtained during the short time that the Paris cases were under treatment based on this view of the disease. But this need not deter us, for you can readily understand that there may be great difficulties in attacking a parasite *in situ*, and in this disease the bodies referred to are seated very deep in the skin, and penetrate even far beneath the horny plug that you saw me dig out. The existence of the bacilli of tuberculosis and leprosy is now established, but we have, as yet, no means of reaching them *in situ*.

In the present case I shall hope to make many trials of different local remedies in order to reach and destroy

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the parasite, and shall hope to show you the results. Mercury, iodine, and sulphur, in their various preparations, are the agents we will chiefly depend upon, and some of these covered by impermeable dressings should, I think, succeed in penetrating and destroying the organisms which we believe to exist in the tissues of this man.



